

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-16. (cancelled)

17. (new) A rotation piezoelectric motor of the mode rotation type comprising a bendable stator fixed to a frame, wherein said stator exhibits two different resonance frequencies in two respective bending modes corresponding to two different directions of bending transversely to said centerline, and said stator comprises:

at least one electro-active component mounted for imparting vibration to said stator and exciting said two bending modes of the stator; and

a single phase electric excitation for the at least one electro-active component, said single phase electric excitation at a frequency for which there is a temporal phase difference between the two bending modes.

18. (new) The rotation piezoelectric motor according to claim 17, wherein the at least one electroactive components is piezoelectric ceramics.

19. (new) The rotation piezoelectric motor according to claim 17, wherein the two different bending modes are obtained by means of a dissymmetrical fixing of the stator to the frame.

20. (new) The rotation piezoelectric motor according to claim 17, wherein the two different bending modes are obtained by use of anisotropic materials for the stator.

21. (new) The rotation piezoelectric motor according to claim 17, wherein the two different bending modes are obtained by means of a dissymmetrical shape of the stator.

22. (new) The rotation piezoelectric motor according to claim 21, wherein the dissymmetrical shape of the stator comprises a dissymmetrical shape of at least one counterweight being part of the stator.

23. (new) The rotation piezoelectric motor according to claim 22, wherein said dissymmetrical shape of the counterweight is obtained by recesses on either side of the centerline.

24. (new) The rotation piezoelectric motor according to claim 17, wherein said at least one electro-active component comprises two electro-active components and each electro-active component is oriented about the centerline so as to excite a respective one of the bending modes of the stator.

25. (new) The rotation piezoelectric motor according to claim 17, wherein said at least one electro-active component comprises two electro-active components separated by a common phase electrode supplied with said electric excitation, and two neutral electrodes are disposed with the two electro-active components there-between.

26. (new) The rotation piezoelectric motor according to claim 17, wherein said at least one electro-active component is at least one piezoelectric wafer having two sectors arranged on either side of a plane containing the centerline, the two sectors having mutually opposed polarities parallel to the centerline.

27. (new) The rotation piezoelectric motor according to claim 17, wherein said at least one electro-active component is adapted and arranged for transmitting vibratory excitation in a bending direction which is intermediate between said two directions of bending corresponding to said two bending modes, respectively.

28. (new) The rotation piezoelectric motor according to claim 27, wherein said at least one electro-active component comprises two piezoelectric wafers separated by a common phase electrode and each wafer has two sectors arranged on either side of a plane containing the centerline, wherein the two sectors of a same wafer have mutually opposed polarities parallel to the centerline, and the sectors facing each other on either side of the phase electrode also have opposed polarities.

29. (new) The rotation piezoelectric motor according to claim 17, wherein said frequency of the single phase excitation is intermediate between said two different resonance frequencies.

30. (new) Motor according to claim 17, wherein said frequency of the single phase excitation is substantially equal to the half-sum of said two different resonance frequencies.

31. (new) The rotation piezoelectric motor according to claim 17, wherein the angle between the two different directions of bending resonance and the temporal phase difference between the two bending modes at the selected frequency of the single phase electric excitation are substantially equal.

32. (new) Motor according to claim 17, wherein the two directions of bending are at 90° of each other and the phase difference is 90° .

33. (new) The rotation piezoelectric motor according to claim 17, wherein said stator comprises two counterweights mounted on either side of said at least one electro-active component.

34. (new) The rotation piezoelectric motor according to claim 33, characterized in that the two counterweights are identical.

35. (new) A method of generating a progressive wave traveling around a centerline along an end face of a bendable stator having two bending modes with two corresponding different resonance frequencies in two different directions transverse to the centerline, comprising the step of applying a single phase electric excitation to at least one electro-active component designed and arranged to cause appearance of the two bending modes in the stator, said single phase electric excitation at a frequency for which there is a temporal phase difference between the two bending modes.

36. (new) The method according to claim 35, wherein the frequency of the single phase excitation is selected for giving said temporal phase difference a value equal to an angle between the two directions of the bending modes.

37. (new) The method according to claim 36, wherein the angle is 90° .

38. (new) The method according to claim 31, wherein the temporal phase difference is 90° for a single phase electric excitation frequency substantially equal to the half-sum of the two resonance frequencies.